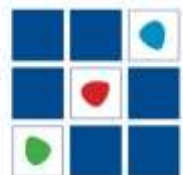


Epidemiološke karakteristike legionarske bolesti



NASTAVNI ZAVOD ZA
JAVNO ZDRAVSTVO
DR. ANDRIJA ŠTAMPAR

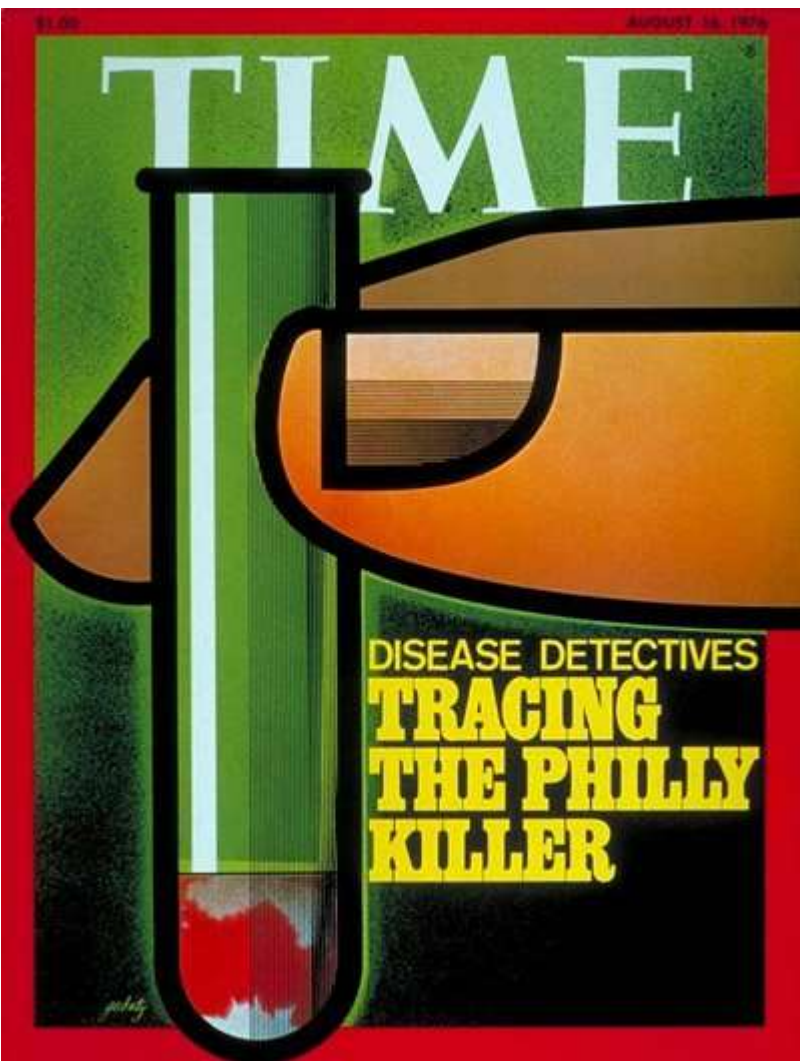
prim. Mirjana Lana Kosanović Ličina, dr.med.
specijalist epidemiolog

Seminar „Legionele u instalacijama pitke vode“

Split, 15.6.2018.

Sadržaj

- Uzročnik, klinička slika, dijagnostika
- Rezervoar
- Rizični faktori
- Epidemiološki podaci (globalni, Europa, Hrvatska)
- Izazovi
- Preporuke



Inside

The state should control its health care, the House has decided. Gov. Carter leaves his mark on a soaring report. Page 2.

The law professor, set for trial, and the news of a lawyer's death, are reported in the San Francisco Police Union Association. Page 3.

The National Guard unit, seen in action in the city, is the subject of a report. Page 4.

The state's role in the health care system is the subject of a report. Page 5.

The state's role in the health care system is the subject of a report. Page 6.

The state's role in the health care system is the subject of a report. Page 7.

The state's role in the health care system is the subject of a report. Page 8.

The state's role in the health care system is the subject of a report. Page 9.

The state's role in the health care system is the subject of a report. Page 10.

TOP OF THE NEWS

San Francisco Chronicle
The Largest Daily Circulation in Northern California

WEDNESDAY, AUGUST 4, 1976

**Murder
In a
Mansion**

See Below

Fear Among the Legionnaires

Air Crash Kills Winner In Primary

Convoy From Tol Zaatar 91 Palestine Wounded Saved

2 Dead in Shooting — Millionaire Held

Thieves Cart Off 3 Tons of Coins

**Legion Mystery
Disease Toll Rising—
Doctors Still Baffled**

**20 Dead,
Many Sick**

**Antitrust
Probe of
Automakers**

San Francisco, Pa.

... ..

Columbus, Mo.

... ..

Washington, D.C.

... ..

Washington, D.C.

... ..

Washington, D.C.

... ..

San Francisco, Pa.

... ..

San Francisco, Pa.

... ..

San Francisco, Pa.

... ..

San Francisco, Pa.

... ..

San Francisco, Pa.

... ..

San Francisco, Pa.

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

Izvor: The Aug. 16, 1976, cover of TIME; TIME

Legionela

- Porodica Legionellaceae:
 - > 52 vrsta legionela s više od 70 seroloških skupina
 - Polovina: bolest u ljudi
- Legionela pneumophila:
 - 85-90% izolata povezanih s legionarskom bolesti čini Legionela pneumophila
 - 14 antigenski različitih skupina
 - serotip 1 (80%), 4 i 6



Source: CDC

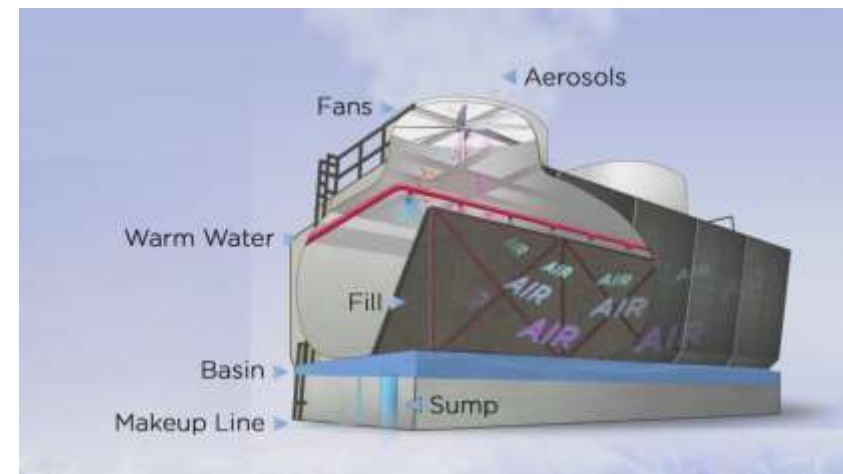
Legionarska bolest – klinička slika

- Upala pluća (pneumonija)
 - Inkubacija: 2-10 dana
 - Kašalj, bol u- prsima, temperatura, umor/slabost, otežano disanje i dr.
 - često životno ugrožavajuća
 - Bolničko liječenje
 - Antibiotško liječenje
- Nema interhumanog prijenosa
- Pontijačna groznica
 - Kraća inkubacija (5-72 h)
 - Bolest nalik gripi (ponekad simptomi GI trakta)
 - Blaži klinički tijek
 - Bez hospitalizacije
 - Spontani oporavak bez antibiotskog liječenja

Legionarska boleest dijagnostika

- Mikrobiološka dijagnostika
- Serum, sputum
 - Kultura, PCR
- urin antigen

Rezervoar legionele



Uvjeti rasta legionele



0°C
Bacterium
dormant



20°C - 45°C
Legionella
will multiply



45°C - 60°C
Legionella
will survive
but cannot
multiply



60°C +
Legionella
will not
survive

- sediment
- mulj
- kamenac
- organska tvar

Rizični faktori

Ljudski:

- Dob
 - >50
- Spol
 - M
- Kronični bolesnici
 - bolesti pluća, srca
- Pušenje
- Oslabljeni imunološki sustav

Okolišni:

- Putovanja
- Boravak u ustanovi zatvorenog tipa (zdravstvene ustanove)
- Blizina rashladnih tornjeva, whirlpool spa i dr.

Legionarska bolest –epidemiološki podaci?

- Opći podaci
 - incidencija i prevalencija legionarske bolesti
 - pneumonije (1-10%)
- Podaci o epidemijama (putovanja, boravak u bolnicama)

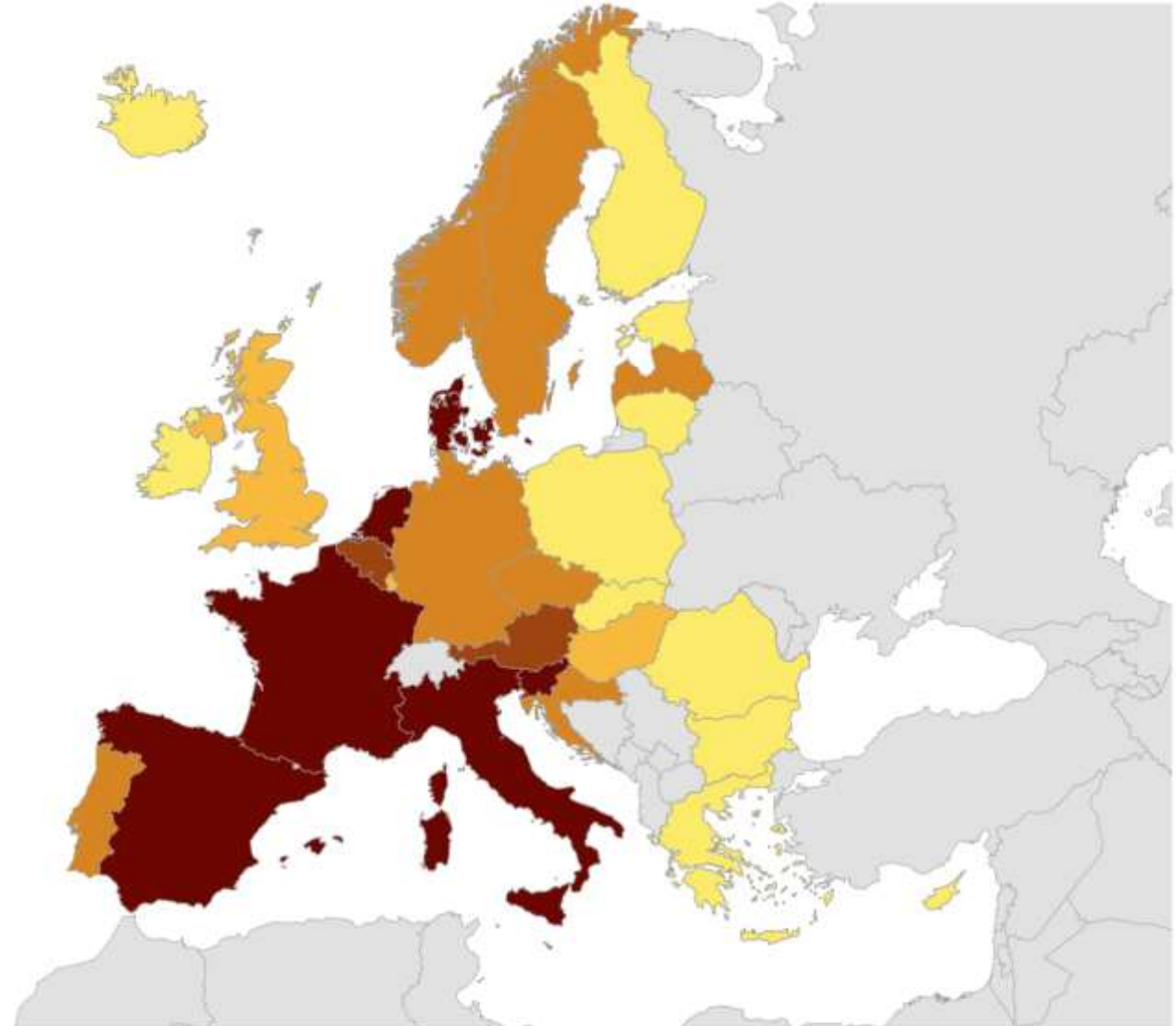
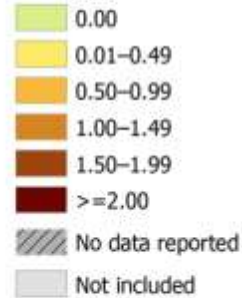
	Rate per 1 million people	Age distribution (% ≥50 years)	Male:female ratio	Case fatality rate (%)	Peak incidence month
Europe	9.2 (0.0-21.4) *	77%	2,8:1	10,3	July-Sept
USA	10,8	74%	1,8:1	8	June-Oct
Canada	4,0	75%	1,57:1	NR	July - Oct
New Zealand	14,0 (25,0) **	Highest rate in 50-59 year age group	1,7:1	5,1	Sept-Nov and March-May
Japan	2,0-7,0***	90,80%	4.3:1	NR	June-Nov
Singapore	6,5	76,1% (≥55 years)	1.4:1	2,2	NR
Australia (NNDSS 2012)	13,5	87,0-89,0 % (≥45 years)	1.9:1	NR	Sept-Nov and March-May

Legionarska bolest – Europa–

Figure 1. Rate of confirmed Legionnaires' disease cases per 100 000 population by country, EU/EEA, 2015



Notification rate



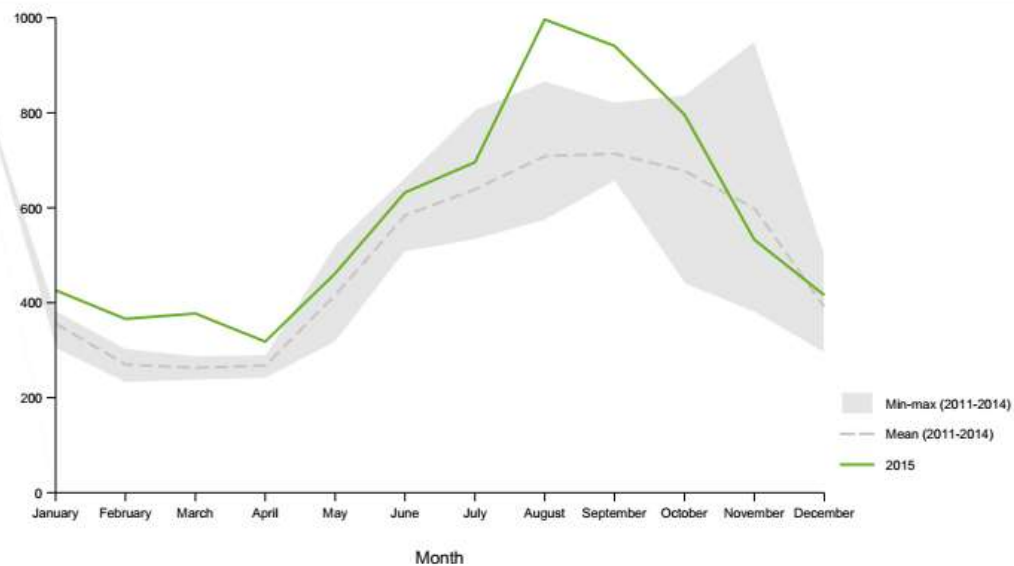
ECDC. Map produced on: 31 Oct 2016

Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

Izvor: European Centre for Disease Prevention and Control. Legionnaires' disease. In: ECDC. Annual epidemiological report for 2015. Stockholm: ECDC; 2017

Epidemiološki obrasci

Figure 2. Number of Legionnaires' disease cases by month, EU/EEA, 2011–2014



Source: Country reports from Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

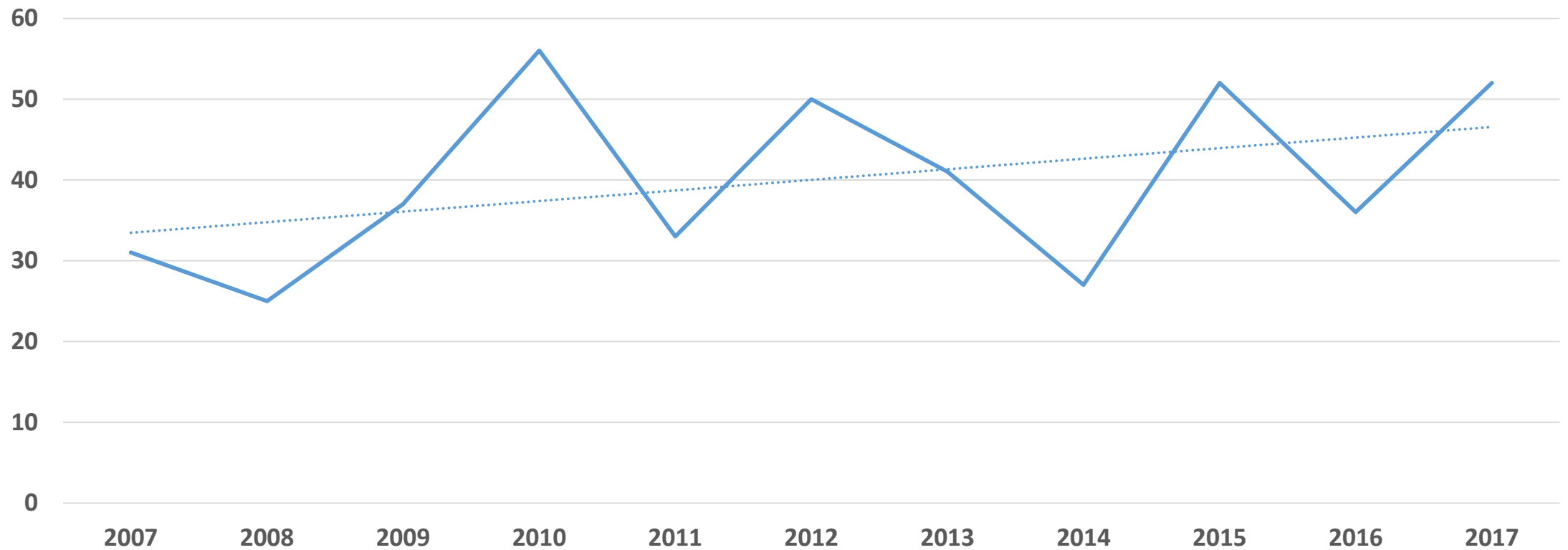
Mjesto izloženosti: *

- 69% iz opće populacije
- 21% putovanje
- 8% zdravstvena ustanova
- 2% ostale ustanove

*Izvor: European Centre for Disease Prevention and Control. Legionnaires' disease. In: ECDC. Annual epidemiological report for 2015. Stockholm: ECDC; 2017

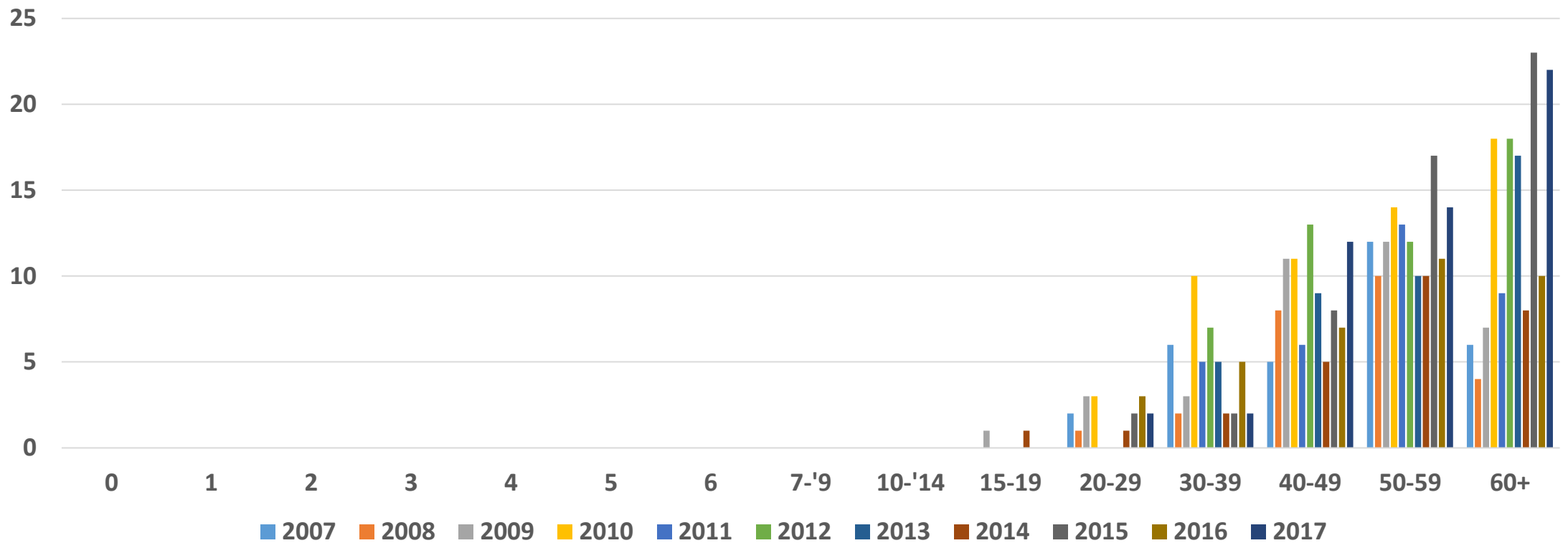
Legionarska bolest Hrvatska

Broj oboljelih od legionarske bolesti, HR
(2007-2017)



Legionarska bolest Hrvatska

Broj oboljelih od legionarske bolesti po dobi, HR
(2007-2017)




Izvor: HZJZ, Služba za epidemiologiju
zaraznih bolesti

Epidemiološka obrada oboljelog /sumnje na oboljelog od legionarske bolesti

- Epidemiološki izvid
 - Osobni podaci
 - Identifikacija mjesta zaražavanja
 - Protuepidemijske mjere
 - Preporuka
 - Nadzor

Izazovi

Svijet

- Broj oboljelih 
- Starenje populacije
- Povećanje broja putovanja
- Klimatske promjene
- Bolje praćenje bolesti

+

Hrvatska

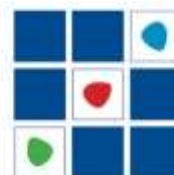
- Nepostojanje legislative
- Infrastruktura (zdravstvene ustanove, sezonski rad)

Preporuke

- Edukacija odgovornih osoba u ustanovama gdje postoji povećani rizik za zaražavanje legionelom
 - Redovite opće preventivne mjere dezinfekcije
- Edukacija zdravstvenih djelatnika
- Legislativa
- intersektorska suradnja



Hvala Vam na pažnji!



NASTAVNI ZAVOD ZA
JAVNO ZDRAVSTVO
DR. ANDRIJA ŠTAMPAR

Služba za epidemiologiju
Odjel za epidemiologiju zaraznih bolesti
E-mail: epidemiologija@stampar.hr